

ANIMATION I :: SYLLABUS

ARTS 4060 Fall 2012

Tuesdays and Fridays, 10:00 am to 11:50 am

Sage, VAST Studio, 2411

Professor: Silvia Ruzanka

Office: Sage 4202

Office Hours: By appointment

Email: ruzans@rpi.edu (please include ARTS 4060 in the subject heading)

*Note this information is subject to change over the course of the semester.

COURSE DESCRIPTION

Animation I is an introduction to 3D animation. Students will complete several small assignments that are designed to encourage creativity, develop a familiarity with the tools and learn animation terminology.

REQUIREMENTS

1. There will be several small projects leading up to a final project. Satisfactory completion of projects and participation during in-class critiques is mandatory for credit. **Critiques are not optional.**

2. Late arrivals, early departures and unexcused absences are frowned upon. Only 3 unexcused absences will be allowed. If you need an official excuse, go to the Student Experience office: 4th floor of Academy Hall, x8022, se@rpi.edu. Every additional absence will result in the lowering of the final grade by a letter. Do not arrive late or leave early. Three tardies or early departures are considered one absence. It is the student's responsibility to make up material missed due to absence; the professor does not provide lecture notes to students who miss class.

ASSIGNMENTS

All assignments are due at the beginning of class and will be marked down if turned in later. Work must be submitted in the format listed in the assignment. Late assignments will be lowered one letter grade for each day late. Satisfactory completion of projects is mandatory for a passing grade.

Budget in time for technical difficulties. **Losing your files due to a computer crash or other means will NOT be allowed as an excuse for turning in work late.** You are responsible for backing up all of your files. Backing up files is very important. **Printer malfunction will NOT be allowed as an excuse for turning in work late.** You are responsible for printing your images ahead of time.

MATERIALS

Required

Laptop computer (bring laptops to every class)

Active RCS account

Video Camera for shooting reference footage

Flash Drive or portable hard drive: You are responsible for backing up all your files.

Maya 2013 (you can download it for **free** from Autodesk)

Bamboo or Wacom Tablet (this will really be useful!) or a really nice 3 button mouse or both

Sketchbook-for keeping ideas, drawings, photographs, and notes. Bring this to class.

RECOMMENDED READING

The Animator's Survival Kit, Richard Williams

The Art of Maya, Autodesk Maya Press

LEARNING OBJECTIVES

By completion of the course:

- Students will be able to use basic 3D modeling techniques
- Students will be able to use basic shading, rendering, texturing, and lighting techniques
- Students will be able to apply animation concepts learned in Fundamentals of Animation to a 3D environment
- Students will create a short 3D animation

COURSE EVALUATION

Students must demonstrate satisfactory achievement of course objectives through fulfillment of course projects and by contributing to class discussions and critiques.

All appeals must be brought to the instructor during office hours or at a scheduled time convenient to both parties. Keep in mind that an appeal has the potential to raise or lower your grade.

If a student completes all assignments adequately, participates in class discussions and activities, and has a good attendance record, she/he can expect to receive a grade of C.

Grades of B and A are given for work, participation and engagement that substantially **exceed** the average expectation.

Letter grade equivalents for the course are as follows:

A=4.0, A-=3.67, B+=3.33 B=3.0, B-= 2.67, C+= 2.33,
C=2.0 C-= 1.67, D+=1.33, D=1.0, F=0.0

Grade Breakdown:

Attendance & Participation: 10%
Short Studies: 50% total
Midterm Project: 15%
Final Project: 25%

ACADEMIC INTEGRITY

Trust: Student-Teacher relationships are built on trust. Students must trust that teachers have made appropriate decisions about the structure and content of the courses they teach. And, teachers must trust that the assignments that students turn in are their own. Acts, which violate this trust, undermine the educational process.

Plagiarism: All work produced in this course must be original and created by the student. First infraction will result in a failure for the course and a report to the Office of the Dean.

COURSE CALENDAR

<p>Week 1 8/28 8/31</p>	<p>Introduction:</p> <p>Introduction to the course</p> <p>Introduction to Maya, keyframe animation</p>	<p>Homework:</p> <p>Post your best work from previous classes onto Vimeo and email Vimeo address to ruzans@rpi.edu. Remember to include ARTS 4060 in the subject line.</p> <p>Bouncing ball exercise</p>
<p>Week 2 9/4 9/7</p>	<p>Introduction to Modeling</p> <p>primitives construction basic lighting basic materials rendering squash and stretch shot composition</p>	<p>Homework:</p> <p>Simple environment with a bouncing ball Lit and rendered</p>
<p>Week 3 9/11 9/14</p>	<p>Polygon Modeling</p> <p>Components, Mesh Tools Extrusion Edges and Edge Loops Combining Meshes Normals Using Reference images</p>	<p>Homework:</p> <p>Find a household object, prepare reference images (drawn or photo) and create a model of the object.</p>
<p>Week 4 9/18 9/21</p>	<p>Polygon Modeling</p> <p>Sculpting tools Soft modification Subdivide, smooth Additional poly editing tools</p>	<p>Homework:</p> <p>Find an organic object, prepare reference images, and create a model of the object.</p>
<p>Week 5 9/25 9/28</p>	<p>Surface construction</p> <p>NURBS NURBS editing Curves Surface construction NURBS to poly conversion</p>	<p>Homework:</p> <p>Machine/Organic hybrid, biomorphic abstraction</p> <p>Begin character design sketches (due week 7)</p>
<p>Week 6 10/2 10/5</p>	<p>Texturing</p> <p>UV mapping and unwrapping Using pre-made textures Textures from photos Textures made from scratch</p>	<p>Homework:</p> <p>UV map and texture your models from the previous homeworks</p>

Week 7 10/9 10/12	Character Modeling No class on 10/9 Anatomy Cartoon anatomy Basic bones and skinning Edgeflow modeling	Homework: Character model using poly modeling Focus on clean topology
Week 8 10/16 10/19	Texturing, continued UV unwrapping and texture creation for characters and faces	Homework: UV map and texture your character
Week 9 10/23 10/26	Rigging Skin weight painting IK Constraints Rig construction fundamentals	Homework: Rig your character Shoot video reference, do thumbnail sketches
Week 10 10/30 11/2	Character animation Principles of character motion Effective poses Walk cycle tutorial	Homework: Blocking Pass of Character Animation
Week 11 11/6 11/9	Timing and spacing Compression/expansion	Homework: Blocking Plus
Week 12 11/13 11/16	Spline control Graph editor Moving, inserting, deleting keys Spline cleanup Ease-in/ease-out	Homework: Splining Pass
Week 13 11/20 11/23: No Class	Studio	
Week 14 11/27 11/30	Work in class	
Week 15 12/4 12/7	Pre-final critique Final Critique will be done during the scheduled final	